
SPECIAL REQUEST FEATURE

Professor C. A. Coulson, F.R.S., Rouse Ball Professor of Mathematics at Oxford University, has recommended that this article be republished. It first appeared in the January 1948 issue of The Reader's Digest

Seven Reasons Why a Scientist Believes in God

BY A. CRESSY MORRISON

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WE ARE still in the dawn of the scientific age and every increase of light reveals more brightly the handiwork of an intelligent Creator. In the 90 years since Darwin we have made stupendous discoveries; with a spirit of scientific humility and of faith grounded in knowledge we are approaching even nearer to an awareness of God.

For myself, I count seven reasons for my faith:

First: *By unwavering mathematical law we can prove that our*

universe was designed and executed by a great engineering Intelligence.

Suppose you put ten coins, marked from one to ten, into your pocket and give them a good shuffle. Now try to take them out in sequence from one to ten, putting back the coin each time and shaking them all again. Mathematically we know that your chance of first drawing number one is one in ten; of drawing one and two in succession, one in 100; of drawing one, two and three in succession, one in a thousand, and so on; your chance of

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drawing them all, from number one to number ten in succession, would reach the unbelievable figure of one chance in ten thousand million.

By the same reasoning, so many exacting conditions are necessary for life on earth that they could not possibly exist in proper relationship by chance. The earth rotates on its axis at one thousand miles an hour; if it turned at one hundred miles an hour, our days and nights would be ten times as long as now, and the hot sun would then burn up our vegetation during each long day while in the long night any surviving sprout would freeze.

Again, the sun, source of our life, has a surface temperature of 12,000 degrees Fahrenheit, and our earth is just far enough away so that this "eternal fire" warms us just enough and not too much! If the sun gave off only one-half its present radiation, we would freeze, and if it gave half as much more, we would roast.

The slant of the earth, tilted at an angle of 23 degrees, gives us our seasons; if it had not been so tilted, vapours from the ocean would move north and south, piling up for us continents of ice. If our moon was, say, only 50 thousand miles away instead of its actual distance, our tides would be so enormous that twice a day all continents would be submerged; even the mountains would soon be eroded away. If the crust of the earth had been only ten feet thicker, there would be no oxygen, without which animal life must

die. Had the ocean been a few feet deeper, carbon dioxide and oxygen would have been absorbed and no vegetable life could exist. Or if our atmosphere had been thinner, some of the meteors, now burned in space by the million every day, would be striking all parts of the earth, starting fires everywhere.

Because of these, and a host of other examples, there is not one chance in millions that life on our planet is an accident.

Second: *The resourcefulness of life to accomplish its purpose is a manifestation of all-pervading Intelligence.*

What life itself is, no man has fathomed. It has neither weight nor dimensions, but it does have force; a growing root will crack a rock. Life has conquered water, land and air, mastering the elements, compelling them to dissolve and reform their combinations.

Life, the sculptor, shapes all living things; an artist, it designs every leaf of every tree, and colours every flower. Life is a musician and has taught each bird to sing its love songs, the insects to call each other in the music of their multitudinous sounds. Life is a sublime chemist, giving taste to fruits and spices, and perfume to the rose, changing water and carbonic acid into sugar and wood and, in so doing, releasing oxygen that animals may have the breath of life.

Behold an almost invisible drop of protoplasm, transparent and

jelly-like, capable of motion, drawing energy from the sun. This single cell, this transparent mist-like droplet, holds within itself the germ of life, and has the power to distribute this life to every living thing, great and small. The powers of this droplet are greater than our vegetation and animals and people, for all life came from it. Nature did not create life; fire-blistered rocks and a saltless sea could not meet the necessary requirements.

Who, then, has put it here?

Third: *Animal wisdom speaks irresistibly of a good Creator who infused instinct into otherwise helpless little creatures.*

The young salmon spends years at sea, then comes back to his own river, and travels up the very side of the river into which flows the tributary where he was born. What brings him back so precisely? If you transfer him to another tributary he will know at once that he is off his course and he will fight his way down and back to the main stream and then turn up against the current to finish his destiny more accurately.

Even more difficult to solve is the mystery of eels. These amazing creatures migrate at maturity from all ponds and rivers everywhere—those from Europe across thousands of miles of ocean—all bound for the same abysmal deeps near Bermuda. There they breed and die. The little ones, with no apparent means of knowing anything except that they are in a wilderness of water,

Professor Coulson writes :

THIS MOVING personal testimony must strike a chord in the heart of anyone who pauses to consider the marvels that science reveals to us. In so vast a subject there are things that some would want to add to Cressy Morrison's credo; there are scientists who differ with his beliefs. Yet the awe and wonder that the Universe inspires are fundamental to a belief in God.

nevertheless find their way back not only to the very shore from which their parents came but thence to the rivers, lakes or little ponds—so that each body of water is always populated with eels. No American eel has ever been caught in Europe, no European eel in American waters. Nature has even delayed the maturity of the European eel by a year or more to make up for its longer journey. Where does the directing impulse originate?

A wasp will overpower a grasshopper, dig a hole in the earth, sting the grasshopper in exactly the right place so that he does not die but becomes unconscious and lives on as a form of preserved meat. Then the wasp will lay her eggs handily so that her children when they hatch can nibble without killing the insect on which they feed; to them dead meat would be fatal. The mother then flies away and dies; she never sees her young. Surely the wasp must have done all this right the first time and every time, or else

there would be no wasps. Such mysterious techniques cannot be explained by adaptation; they were bestowed.

Fourth: *Man has something more than animal instinct—the power of reason.*

No other animal has ever left a record of its ability to count ten, or even to understand the meaning of ten. Where instinct is like a single note of a flute, beautiful but limited, the human brain contains all the notes of all the instruments in the orchestra. No need to belabour this fourth point; thanks to human reason we can contemplate the possibility that we are what we are only because we have received a spark of Universal Intelligence.

Fifth: *Provision for all living is revealed in phenomena which we know today but which Darwin did not know—such as the wonders of genes.*

So unspeakably tiny are these genes that, if all of them responsible for all living people in the world could be put in one place, there would be less than a thimbleful. Yet these ultra-microscopic genes and their companions, the chromosomes, inhabit every living cell and are the absolute keys to all human, animal and vegetable characteristics. A thimble is a small place in which to put all the individual characteristics of two thousand million human beings. However, the facts are beyond question. Well, then—how do genes lock up all the normal heredity of a

multitude of ancestors and preserve the psychology of each in such an infinitely small space?

Here evolution really begins—at the cell, the entity which holds and carries the genes. How a few million atoms, locked up as an ultra-microscopic gene, can absolutely rule all life on earth is an example of profound cunning and provision that could emanate only from a Creative Intelligence; no other hypothesis will serve.

Sixth: *By the economy of nature, we are forced to realize that only infinite wisdom could have foreseen and prepared with such astute husbandry.*

Many years ago a species of cactus was planted in Australia as a protective fence. Having no insect enemies in Australia the cactus soon began a prodigious growth; the alarming abundance persisted until the plants covered an area as long and wide as England, crowding inhabitants out of the towns and villages, and destroying their farms. Seeking a defence, the entomologists scoured the world; finally they turned up an insect which lived exclusively on cactus, and would eat nothing else. It would breed freely too; and it had no enemies in Australia. So animal soon conquered vegetable and today the cactus pest has retreated, and with it all but a small protective residue of the insects, enough to hold the cactus in check for ever.

Such checks and balances have

been universally provided. Why have not fast-breeding insects dominated the earth? Because they have no lungs such as man possesses; they breathe through tubes. But when insects grow large, their tubes do not grow in ratio to the increasing size of the body. Hence there has never been an insect of great size; this limitation on growth has held them all in check.

If this physical check had not been provided, man could not exist. Imagine meeting a hornet as big as a lion!

Seventh: *The fact that man can conceive the idea of God is in itself a unique proof.*

The conception of God rises from

a divine faculty of man, unshared with the rest of our world—the faculty we call imagination. By its power, man and man alone can find the evidence of things unseen. The vista that power opens up is unbounded; indeed, as man's perfected imagination becomes a spiritual reality, he may discern in all the evidences of design and purpose the great truth that heaven is wherever and whatever; that God is everywhere and in everything, but nowhere so close as in our hearts.

It is scientifically as well as imaginatively true; in the words of the Psalmist: The heavens declare the glory of God and the firmament sheweth His handiwork.



The Name's the Same

THE MOST popular names in Britain today are the traditional sturdy ones, with John and Jane heading the list. David, James and Charles follow John, while Mary, Ann, Elizabeth and Sarah follow Jane. So reports J. W. Leaver who, in an annual letter to *The Times*, reveals his 12-month tabulation of the names appearing in the paper's birth announcements. And now the headmaster of a school in Shropshire, also in a letter to *The Times*, has given this fact a fascinating historical perspective. From the local parish register, he had lists compiled of the most popular girls' names in 1583 and again in 1783. In 1583 the list ran: Jane, Elizabeth, Margaret, Ann and Mary; in 1783: Mary, Ann and Elizabeth, with Sarah and Margaret tied for fourth place. Of the five most popular names in both 1583 and 1783, four were still in the 1959 list, and three of them in the same relative position.

Fashion can sometimes be a good deal less fickle than we think.